

WHAT IS CLAIMED IS:

1. A method comprising:
5 (a) adding sulfur, or another halogenation suppressant, or mixtures thereof to a composition containing dioxin precursors,
 (b) incinerating the composition containing dioxin precursors, thereby forming a gaseous medium,
 (c) reducing heat in the gaseous medium formed in step (b),
 (d) removing ash from the gaseous medium,
10 (e) adding an adsorbent to the gaseous medium formed in step (d), and
 (f) removing acid gases and particulates from the gaseous medium formed in step (e).
- 15 2. The method of Claim 1, wherein the dioxin precursors are aromatic compounds selected from the group consisting of phenols, benzene, and chlorinated aromatic compounds.
- 20 3. The method of Claim 1, wherein the composition containing dioxin precursors comprises a sludge.
- 25 4. The method of Claim 1, wherein the composition containing dioxin precursors comprises ^{at least one selected from the group consisting of} (i) a wastewater treatment sludge, (ii) solid organic residues and (iii) a mixture of chlorinated solvents.
- 30 5. The method of Claim 1, wherein the adsorbent comprises powdered activated carbon.
6. The method of Claim 1, wherein the composition containing dioxin precursors is incinerated at a temperature that is at least about 800°C.
7. The method of Claim 1, wherein the composition containing dioxin precursors is incinerated in a fluidized bed incinerator.
8. The method of Claim 1, wherein the gaseous medium is selected from the group consisting of gases, particulates, and liquid droplets.

9. The method of Claim 1, wherein the gaseous medium formed in step (b) is reduced to a temperature that is more than 0 °C and below about 200°C.

10. The method of Claim 1, wherein the gaseous medium
5 formed in step (b) is reduced to a temperature that is more than 0°C by adding water to the gaseous medium.

11. The method of Claim 1, wherein ash is removed from the gaseous medium with a precipitator.

12. The method of Claim 1, wherein the sulfur, or another
10 halogenation suppressant, or mixtures thereof is added at a rate that is at least about 0.01kg, per 100 m³ gaseous medium, and the powdered activated carbon is added at a rate that is at least about 0.01kg, per 100 m³ gaseous medium.

13. The method of Claim 1, wherein ~~the chlorinated solvents~~ are selected from the group consisting of dichloromethane, monochlorobenzene, dichlorobenzene, 1,1-dichloroethane and methylene chloride.

14. The method of Claim 1, wherein the reduction of heat in step (b) comprises passing hot gasses from a fluidized bed incinerator through a boiler for heat recovery.

15. A method comprising:

(a) adding sulfur, or another halogenation suppressant, or mixtures thereof, to a composition containing dioxin precursors that ~~at least one solid from the group consisting of~~ comprises (i) a wastewater treatment sludge (ii) solid organic residues and (iii) a mixture of halogenated solvents,

25 (b) incinerating the composition containing dioxin precursors at a temperature that is at least about 800°C, thereby forming a gaseous medium,

(c) reducing heat in the gaseous medium formed in step (b) to a temperature that is below about 200°C,

30 (d) removing ash from the gaseous medium,

- (e) adding activated powder to the gaseous medium formed in step (d) at a rate that is at least about 0.0007 kg, per about 100 m³ of gaseous medium,
- (f) removing acid gases and particulates from the gaseous medium formed in step (e).
- 5 16. The method of Claim 15, wherein the dioxin precursors are aromatic compounds selected from the group consisting of phenols, benzene, and chlorinated aromatic compounds.
- 10 17. The method of Claim 15, wherein the composition containing dioxin precursors incinerates in a fluidized bed incinerator.
18. The method of Claim 15, wherein the gaseous medium is selected from the group consisting of gases, particulates, and liquid droplets.
- 15 19. The method of Claim 15, wherein the gaseous medium formed in step (b) is reduced to a temperature that is more than 0 °C by adding water to the gaseous medium.
20. The method of Claim 15, wherein the reduction of heat in step (b) comprises passing hot gasses from a fluidized bed incinerator through a boiler for heat recovery.